



INSTRUCTIONS

-J03518

REV. 2005-06-21

CHROME REAR MASTER CYLINDER/RESERVOIR KIT

GENERAL

Kit Number

41775-04B

Models

This kit fits 1999-2004 Touring Models and 2000-2005 Softail® models.

Additional Parts Required

Installation of this kit will require the following additional parts:

Steel/rubber washers, (Part Number 41731-01)

Wheel bearing grease (Part Number 99855-89)

Brake pedal O-rings (Part Number 11364)

Loctite® Threadlocker 243 (blue) (Part Number 99642-97)

These parts are available separately from any Harley-Davidson dealer.

WARNING

The rider's safety depends upon the correct installation of this kit. Use the appropriate service manual procedures. If the procedure is not within your capabilities or you do not have the correct tools, have a Harley-Davidson dealer perform the installation. Improper installation of this kit could result in death or serious injury. (00333a)

NOTE

This instruction sheet references Service Manual information. A Service Manual for your model motorcycle is required for this installation and is available from a Harley-Davidson Dealer.

Kit Contents

See Figure 5 and Table 1.

INSTALLATION

Prepare the Motorcycle for Service

1. Follow the instructions in the Service Manual to remove the seat.

WARNING

To prevent accidental vehicle start-up, which could cause death or serious injury, disconnect negative (-) battery cable before proceeding. (00048a)

2. Disconnect the negative (-) battery cable.

Remove the Rear Master Cylinder/Reservoir

1. **For Touring models with fairing lowers:** Remove lower fairings. See Service Manual for procedure.

2. **For models equipped with saddlebags:** Access the rear brake bleeder valve. See Service Manual for procedure.
3. Install end of clear plastic tubing over rear caliper bleeder valve. Place the free end in a suitable container.

WARNING

Be sure that no lubricants or fluids get on tires, wheels or brakes when changing fluid. Traction can be adversely affected, which could result in loss of control of the motorcycle and death or serious injury. (00047d)

4. Open bleeder valve 1/2 turn and pump brake pedal to drain brake fluid. Close bleeder valve.

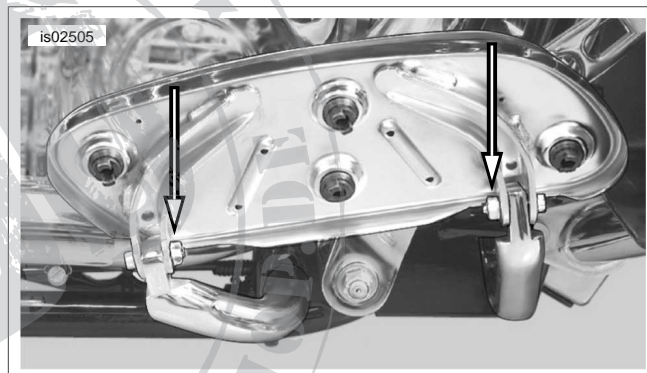


Figure 1. Footboard Pivot Bolts and Locknuts

5. See Figure 1. **For Touring and Softail FLSTC/I, FLSTN, FLSTS/C and FLSTF/I models:** Remove the two right side footboard pivot bolts and locknuts to remove the footboards.
6. Place a suitable container under the rear brake master cylinder/reservoir.

CAUTION

Remove brake line components carefully. Damage to seating surfaces can cause leakage. (00320a)

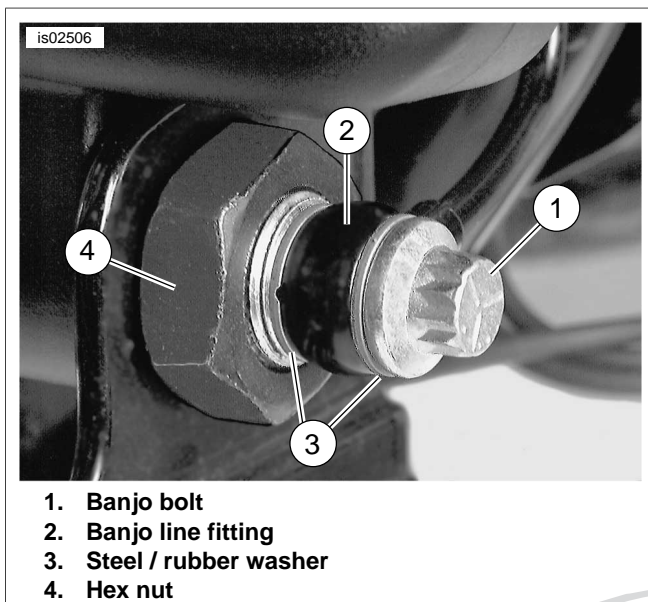


Figure 2. Banjo Fitting

7. See Figure 2. Remove banjo bolt (1) and two steel/rubber washers (3) to disconnect brake line banjo fitting (2).
8. Drain brake line in container and secure brake line as required. Discard steel/rubber washers.

NOTE

If necessary to access hex nut (4), release rear brake line from frame clips to move banjo fitting forward. See Service Manual for brake line routing and frame clip locations.

9. Using 1-1/8 inch wrench, remove hex nut to free master cylinder assembly from mounting bracket.

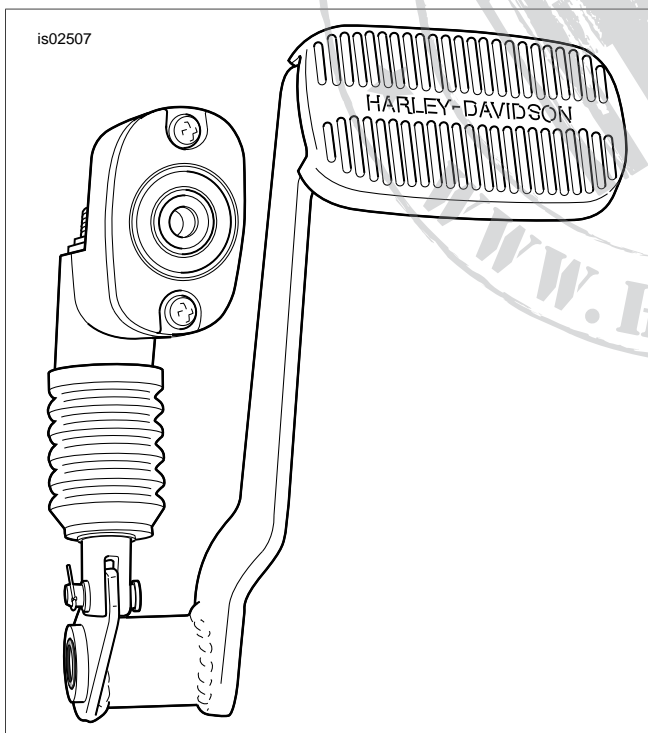


Figure 3. Brake Pedal/Master Cylinder Assembly

10. See Figure 3. Remove brake pedal/master cylinder assembly.
 - a. **For Touring models:** Remove locknut with flat washer to free brake pedal/master cylinder assembly from brake pedal spindle welded to frame.
 - b. **For Softail models:** Remove screw and flat washer to free brake pedal/master cylinder assembly brake pedal spindle on footboard bracket.
11. Remove and discard O-ring on each side of brake pedal shaft bore.

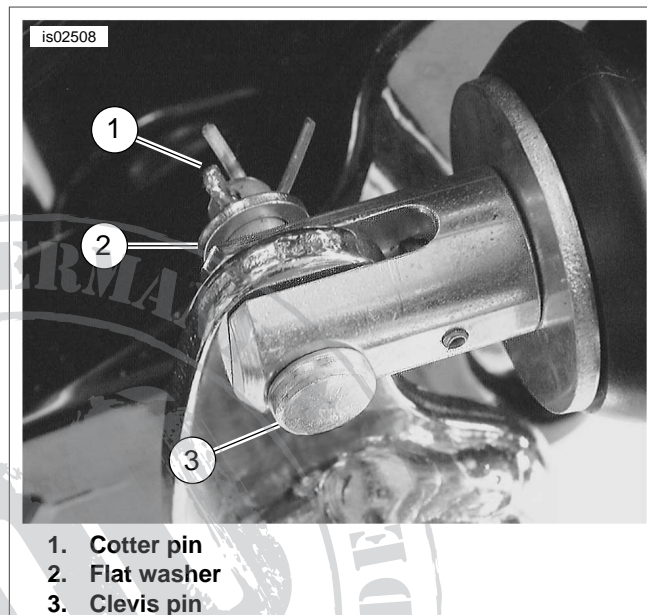


Figure 4. Master Cylinder Push Rod to Brake Pedal

Disassembly

1. See Figure 4. Remove cotter pin (1) and flat washer (2) from clevis pin.
2. Supporting rear brake pedal/master cylinder assembly in vise, tap out clevis pin (3) using a brass drift and remove master cylinder assembly from brake pedal flange.

Assembly

NOTE

Do not disassemble the master cylinder, the pedal return spring, boot and retainer. The master cylinder assembly is completely assembled and installed in the reservoir cylinder assembly.

1. Obtain **new** master cylinder/reservoir assembly from kit.

WARNING

Use denatured alcohol to clean brake system components. Do not use mineral-based solvents (such as gasoline or paint thinner), which will deteriorate rubber parts even after assembly. Deterioration of these components can cause brake failure, which could result in death or serious injury. (00291a)

2. Clean new master cylinder/reservoir assembly, cover and cover gasket with denatured alcohol or the brake fluid grade specified in the Service Manual. Wipe dry with a clean, lint free cloth.

3. Install two screws from the kit to fasten the cover to the reservoir. Finger tighten the screws.
4. Install master cylinder/reservoir to brake pedal flange.
5. Supporting the assembly without damaging the chrome finish, tap in clevis pin using a brass drift. Install flat washer and new cotter pin from kit on clevis pin.
6. Apply a light coat of Wheel Bearing Grease (Part Number 99855-89) to the brake pedal shaft and bore.
7. Install a **new** O-ring on each side of bushings in brake pedal shaft bore.

Install the Rear Brake Master Cylinder/Reservoir

1. Install brake pedal/master cylinder assembly on the pedal spindle while fitting collar on cartridge body into square-shaped hole in mounting bracket.
2. Install brake pedal to brake pedal spindle.
 - a. **For Touring models:** Install flat washer and new locknut. Tighten to 15-20 ft-lbs (20-27 Nm).
 - b. **For Softail models:** Install the brake pedal washer and screw. Tighten to 12-16 ft-lbs (16.3-21.7 Nm).
3. Apply Loctite 243 (blue) to threads and thread on hex nut capturing cartridge to mounting flange. Tighten the hex nut to 50 ft-lbs (68 Nm).
4. Obtain banjo bolt and two **new** steel/rubber washers.
5. Install hydraulic line to master cylinder/reservoir using banjo bolt with washer oriented on each side of banjo fitting. Tighten banjo bolt to 17-22 ft-lbs (23-31 Nm).
6. **For all Touring models and for Softail models with footboards:** Install footboard with pivot bolts and nuts so that the nuts are on the inboard side. Tighten nuts to 84-108 in-lbs (9.5-12.2 Nm).
7. **For Touring models with fairing lowers:** Install lower fairings. See Service Manual for procedure.

Bleed the Rear Brake

WARNING

Be sure that no lubricants or fluids get on tires, wheels or brakes when changing fluid. Traction can be adversely affected, which could result in loss of control of the motorcycle and death or serious injury. (00047d)

NOTE

Hydraulic brake fluid bladder-type pressure equipment can be used to fill brake master cylinder through the bleeder valve. Remove master cylinder reservoir cover so that system cannot pressurize. Do not use pressure bleeding equipment when the hydraulic system is sealed with master cylinder reservoir cover and gasket in place.

1. Close the bleeder valve on the rear caliper.
2. If removed, return a length of plastic tubing over caliper bleeder valve. Place free end of tube in a container.
3. Stand motorcycle upright. Clean and remove cover to master cylinder reservoir.

CAUTION

Direct contact of D.O.T. 5 brake fluid with eyes can cause eye irritation, swelling, and redness. Avoid eye contact. In case of eye contact flush with large amounts of water and get medical attention. Swallowing large amounts of D.O.T. 5 brake fluid can cause digestive discomfort. If swallowed, obtain medical attention. Use in well ventilated area. KEEP OUT OF REACH OF CHILDREN. (00144a)

CAUTION

D.O.T. 5 silicone hydraulic brake fluid is used in the hydraulic clutch. Do not use other types of fluids as they are not compatible and could cause equipment damage. (00204a)

NOTE

Do not mix D.O.T. 5 silicone hydraulic brake fluid with other grades of fluids as they are not compatible and could cause equipment damage.

4. Repeat the following until all air bubbles are purged and pure brake fluid flows from the brake line.
 - a. Add the grade of brake fluid specified in the Service Manual to the master cylinder reservoir until the fluid level is 1/8 inch (3.2 mm) from the top.
 - b. Press and hold brake pedal to build up pressure.
 - c. Open bleeder valve slowly about 1/2 turn counterclockwise. Brake fluid and air bubbles will flow from bleeder valve and through tubing.
 - d. When pedal has moved 1/2 to 3/4 of its full range of travel, close bleeder valve (clockwise). Allow brake lever to return slowly to its released position.
5. When all air bubbles have been purged, verify fluid level in reservoir at 1/8 inch (3.2 mm) from the top.
6. Remove clear plastic tubing and tighten bleeder valve to 80-100 in-lbs (9.0-11.3 Nm). Install bleeder valve cap.
7. Attach cover to master cylinder reservoir. Tighten screws to 6-8 in-lbs (0.7-0.9 Nm).

NOTE

The sight glass enables the rider to visually check the brake fluid level without removing the master cylinder cover. When the reservoir is full, the sight glass is dark. As the fluid level drops, the glass lightens up.

Final Assembly and Test Ride

1. **For models equipped with saddlebags:** Re-install all brackets and saddlebags removed to access the rear brake calipers and the bleeder valve. See Service Manual for procedure.

WARNING

After installing seat, pull upward on seat to be sure it is locked in position. While riding, a loose seat can shift causing loss of control, which could result in death or serious injury. (00070b)

2. Follow the instructions in the Service Manual to reattach the negative (-) battery cable.

- Follow the instructions to install the seat.
- With the ignition/light key switch turned to IGNITION, actuate the rear brake pedal to verify operation of the brake lamp.

⚠️ WARNING

After repairing the brake system, test brakes at low speed. If brakes are not operating properly, testing at high speeds can cause loss of control, which could result in death or serious injury. (00289a)

- Test ride the motorcycle. If the brake feels spongy, repeat the rear brake bleeding procedure.

SERVICE PARTS

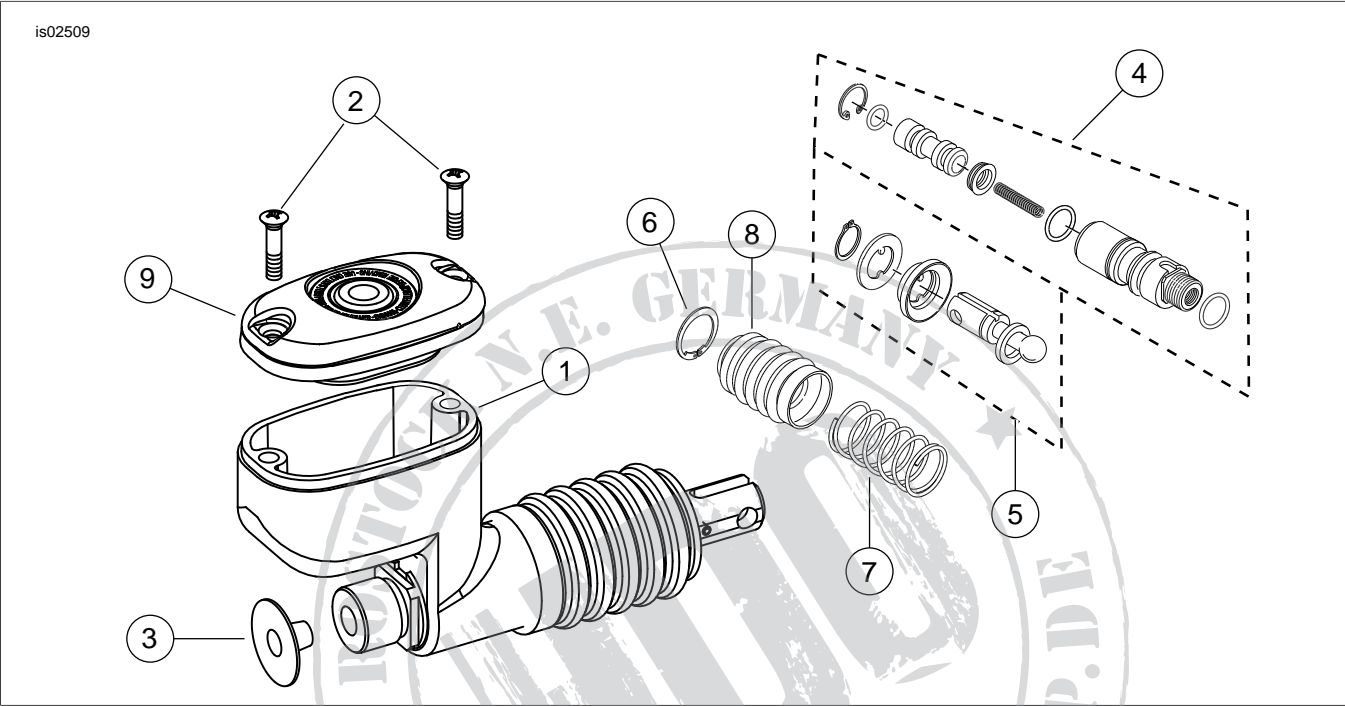


Figure 5. Service Parts: Chrome Rear Master Cylinder/Reservoir Kit

Table 1. Service Parts: Chrome Rear Master Cylinder/Reservoir Kit

Item	Description (Quantity)	Part Number	Item	Description (Quantity)	Part Number
1	Chrome rear master cylinder/reservoir assembly	41776-04	6	Spring retainer ring	40918-87
2	Stainless steel screw (2)	2573	7	Pedal return spring	40920-87
3	Shipping plug		8	Dust boot	40922-87
4	Master cylinder repair kit	42382-87C	9	Chrome rear cover assembly	46466-05
5	Pushrod kit	41957-97A	10	Cotter pin (not shown)	515

NOTE

Item 9, Chrome Rear Cover Assembly includes the reservoir cover, gasket and sight glass. The gasket, Part Number 42568-

05 can be purchased separately from any Harley-Davidson dealer.